

ABB EQ Meters UL Approved

Meters made simple



B23 112-500 and B23 312-500 are simple and precise meters for three phase measuring.

Both meters are mounted on a DIN rail and are suitable for installation in distribution control panels and power distribution boards.

Thanks to the direct connection for current up to 65A, they can be used in applications where there is a need for reliable energy measurements in a limited space.

General features

ABB EQ meters are suitable for a wide range of distribution control panels and power distribution boards. The UL range includes Steel B23 112-500 and Silver B23 312-500 meters. Both meters are suitable for three phase metering via direct connection up to 65A. Reliable energy measurements are performed with ANSI approved Class 1.0 accuracy, making them suitable for revenue metering.

In addition, the two meters are coupled with a broad range of measured parameters.

Communication

Both the B23 112-500 and B23 312-500 meters come standard with Modbus RTU for easy readout of measurements. Additionally, an infrared port for communication with an external Serial Communication Adapter (SCA) such as the KNX adapter is also provided.

UL and ANSI Approval

Both meters are approved according to standards of the UL 61010-1 and UL 61010-2-030 which regulate the safety requirements of electrical equipment for measurement, control, and laboratory use, also in testing and measuring applications.

Additionally, the two meters are ANSI C12.1 approved. In fact, their performance levels are suitable for revenue metering, which they execute with Class 1 accuracy.

Supported measurements

The meters support the readout of the following values both via LCD and Modbus RTU:

STEEL	SILVER
<ul style="list-style-type: none"> Active energy Class 1 Pulse Output Alarm 	<ul style="list-style-type: none"> Steel+ Reactive Energy Apparent Energy Import/Export Energy Class 1 Resettable energy register Tariffs Fixed I/O

Ordering details

Description	Order code	EAN code	Weight 1 piece
			kg
B23 112-500	2CMA105928R1000	8012542389057	0,31
B23 312-500	2CMA105931R1000	8012542389255	0,31
Voltage/current inputs		B23 112-500	B23 312-500
Nominal voltage	120/208/240/415 VAC 3		
Voltage range	3x120-240 VAC (-20% to +15%)		
Power dissipation voltage circuits	1.6 VA (0.7 W) total		
Power dissipation current circuits	0.007 VA (0.007 W) per phase at 230 VAC and I _b		
Base current I _b	5A		
Rated current I _n	-		
Reference current I _{ref}	5A		
Maximum current I _{max}	65A		
Terminal wiring area (L * W)	4/10 AWG Stranded, 10/14 AWG Solid		
General data			
Frequency	50 or 60 Hz ± 5%		
Accuracy class	1% ANSI C12.1 / B (Cl. 1) and Reactive Cl. 2		
Active energy	1%		
Display of energy	7-digit LCD		
Mechanical			
Material	Polycarbonate in transparent front glass. Glass reinforced polycarbonate in bottom case and upper case. Polycarbonate in terminal cover.		
Weight	0.31 kg		
Environmental			
Operating temperature	-40°C to +70°C		
Storage temperature	-40°C to +85°C		
Humidity	75% yearly average, 95% on 30 days/year		
Resistance to water and dust	IP20 on terminal block without protective enclosure and IP51 in protective enclosure (IEC 60529)		
Mechanical environment	Class M2 (MID 2014/32/UE)		
Electromagnetic environment	Class E2 (MID 2014/32/UE)		
Outputs	1 DO	2 DO	
Current	2 - 100 mA		
Voltage	5 - 40 VDC	5 - 240 VAC/VDC	
Pulse output frequency	Programmable: 1 - 999999 imp/kWh		
Pulse length	Programmable: 10 - 990 ms		
Terminal wire area	0.5 - 1 mm ²		
Inputs	N/A	2 DI	
Voltage	0 - 240 VAC / VDC		
OFF	0 - 5 VAC / VDC		
ON	57 - 240 VAC / 24 - 240 VDC		
Min. pulse length	30 ms		
Terminal wire area	0.5 - 1 mm ²		
Standards	IEC 62052-11, IEC 62053-21 class 1, IEC 62053-23 class 2, EN 50470-1, EN 50470-3 category B, UL 61010-1, UL 61010-2-030, UL/ANSI C12.1		
Dimensions			
Width	70 mm		
Height	97 mm		
Depth	65 mm		

